

Fig. 1
Prior Art

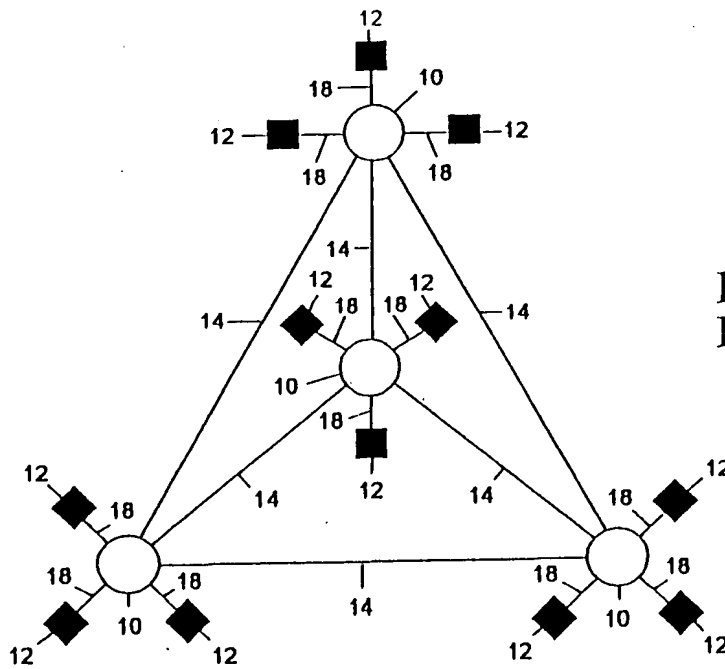


Fig. 2
Prior Art

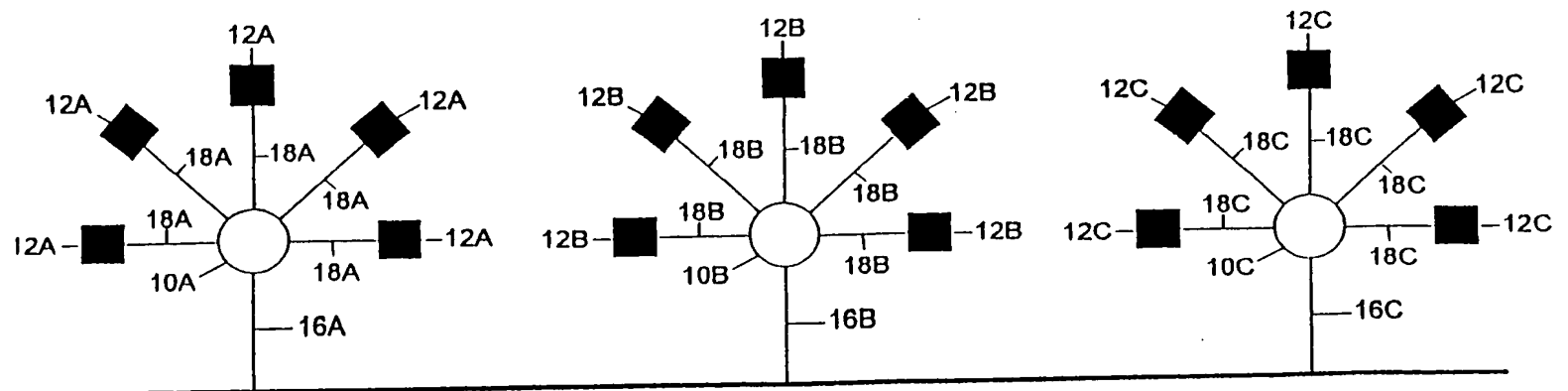


Fig. 3
Prior Art

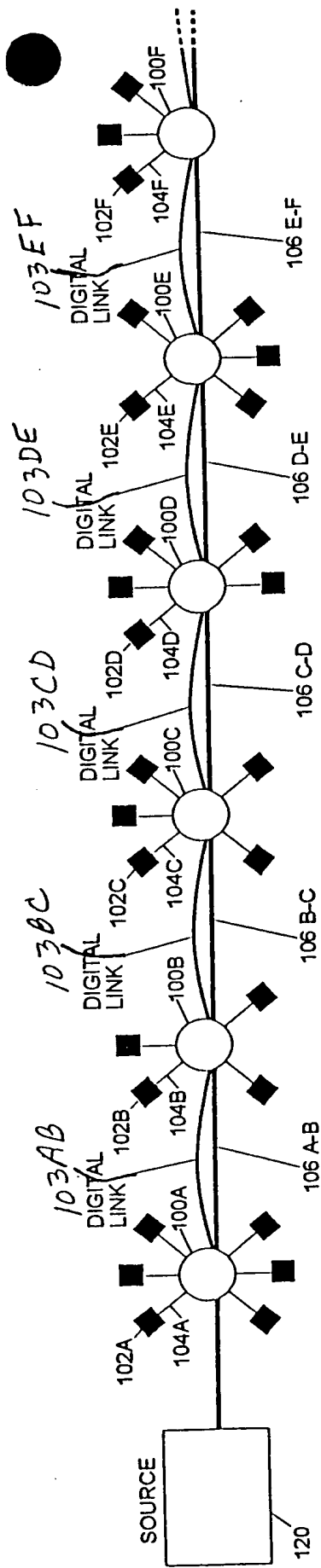
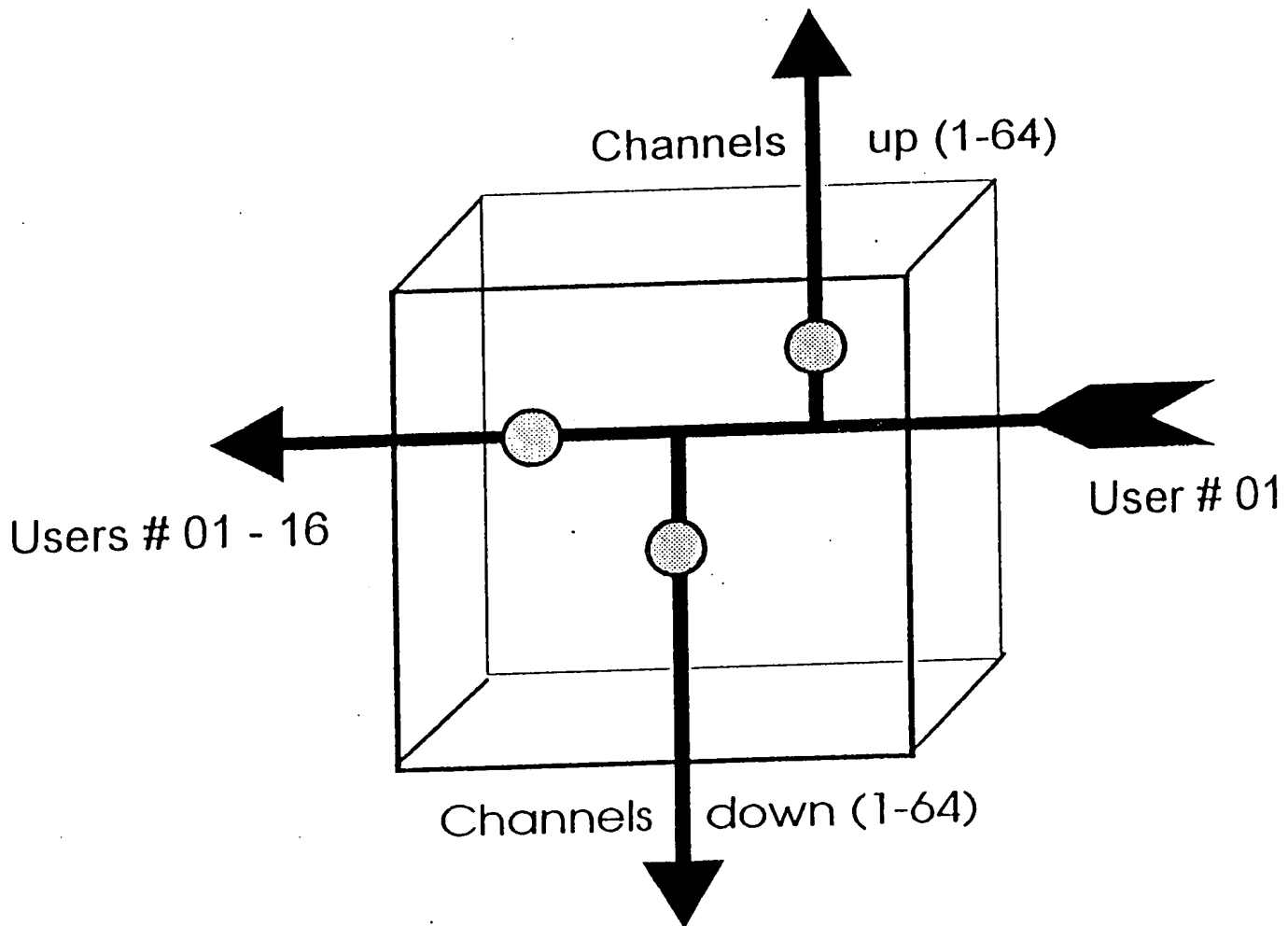


Fig. 4

Principle of Channel Segmentation (Transmit mode - Tx)

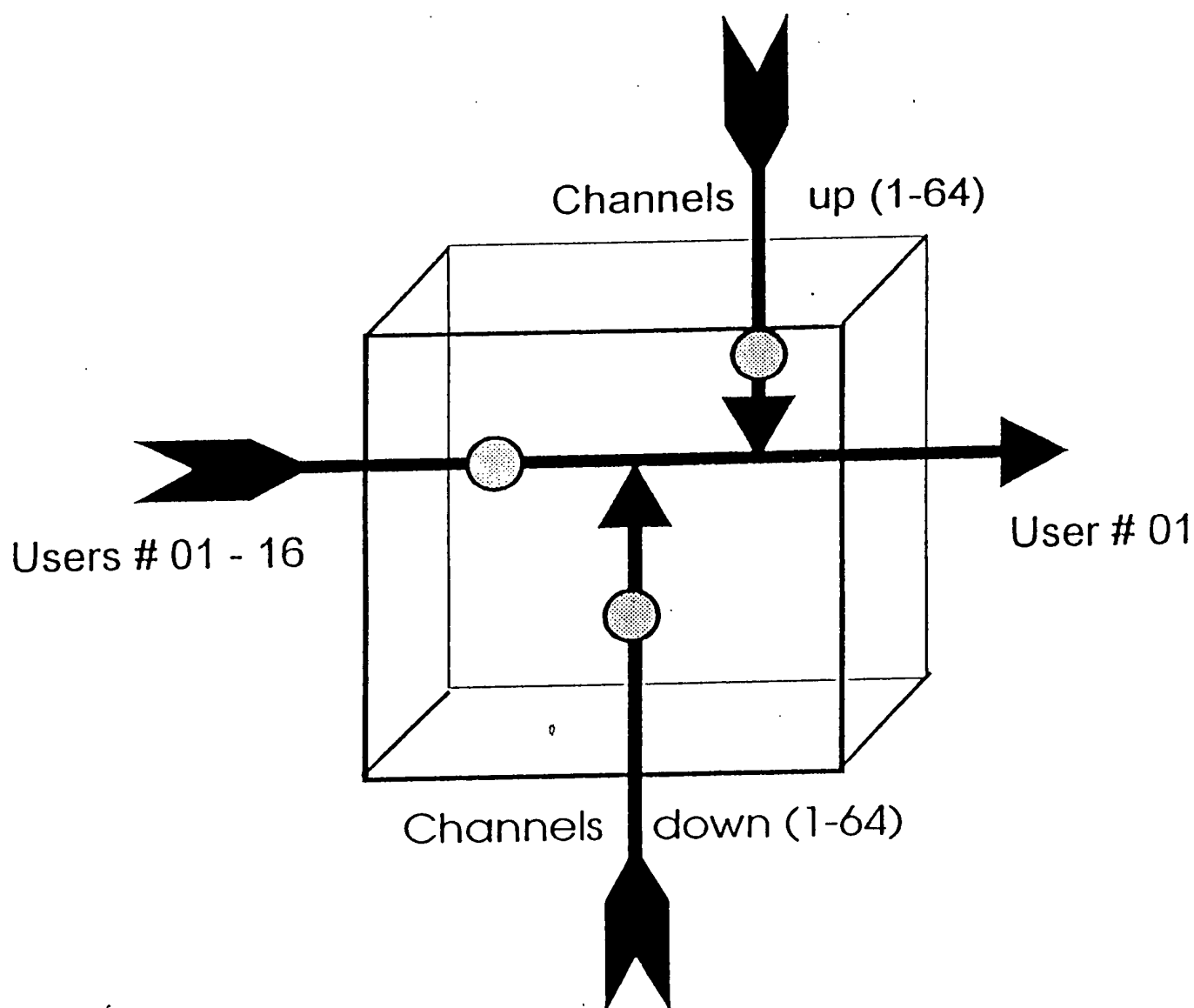


Digitally controlled analog switch (on/off)

Signal path may be interrupted to limit distribution over network at 3 points per crosspoint switch (up, down, across)

Fig. 5

Principle of Channel Segmentation (Receive mode - Rx)



⊙ Digitally controlled analog switch (on/off)

Signal path may be interrupted to limit distribution over network at 3 points per crosspoint switch (up, down, across)

Fig. 6

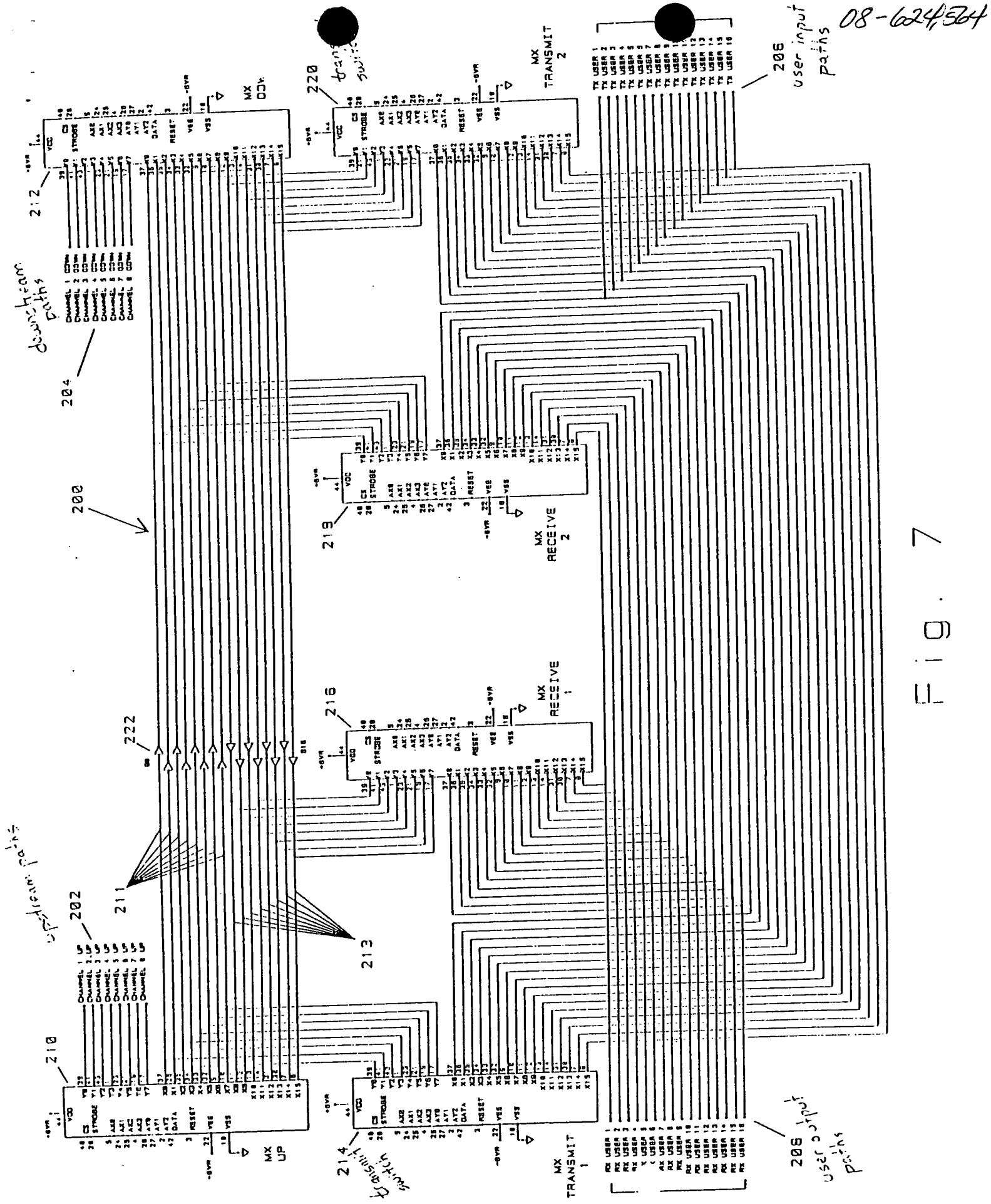
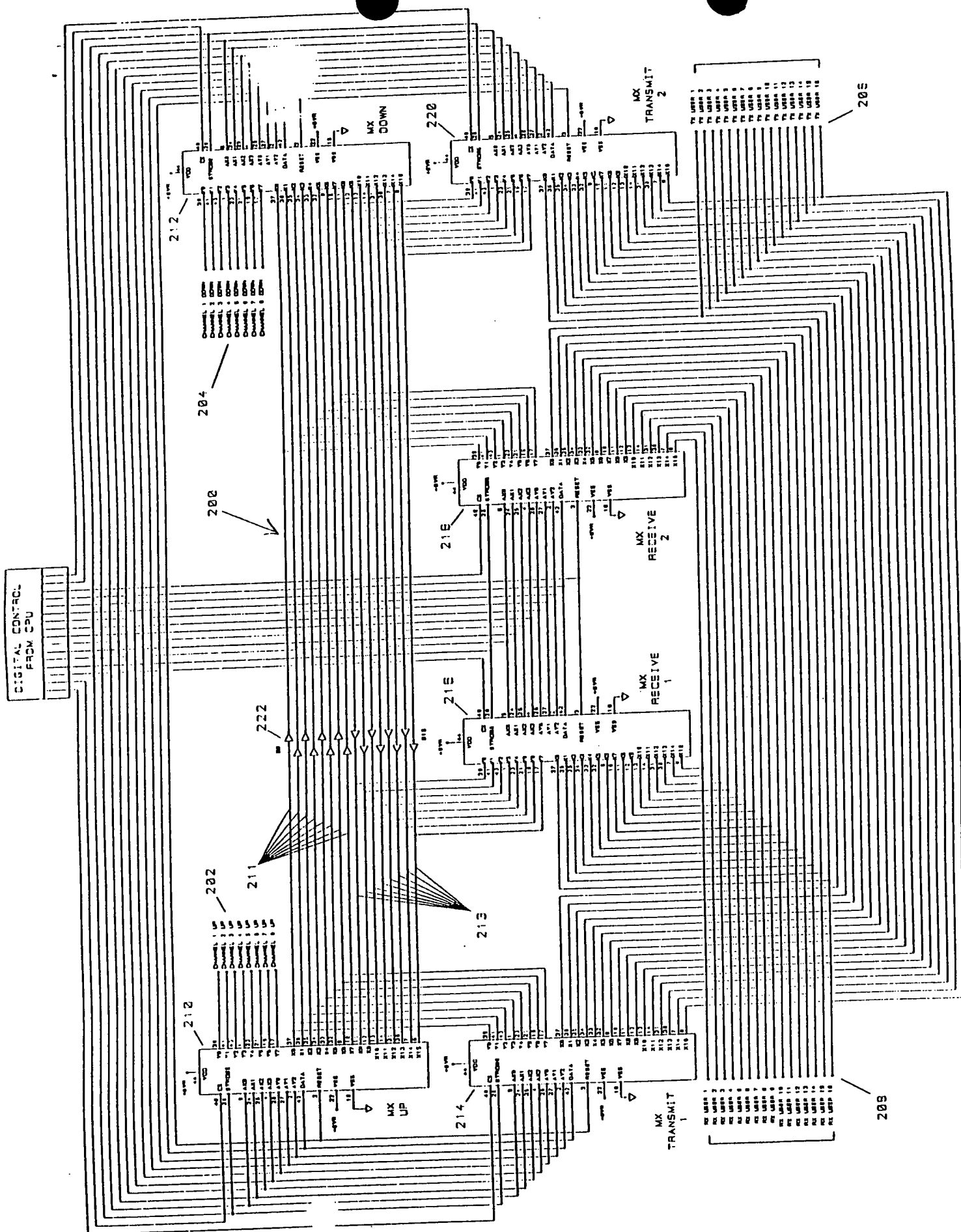


Fig. 7

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7A

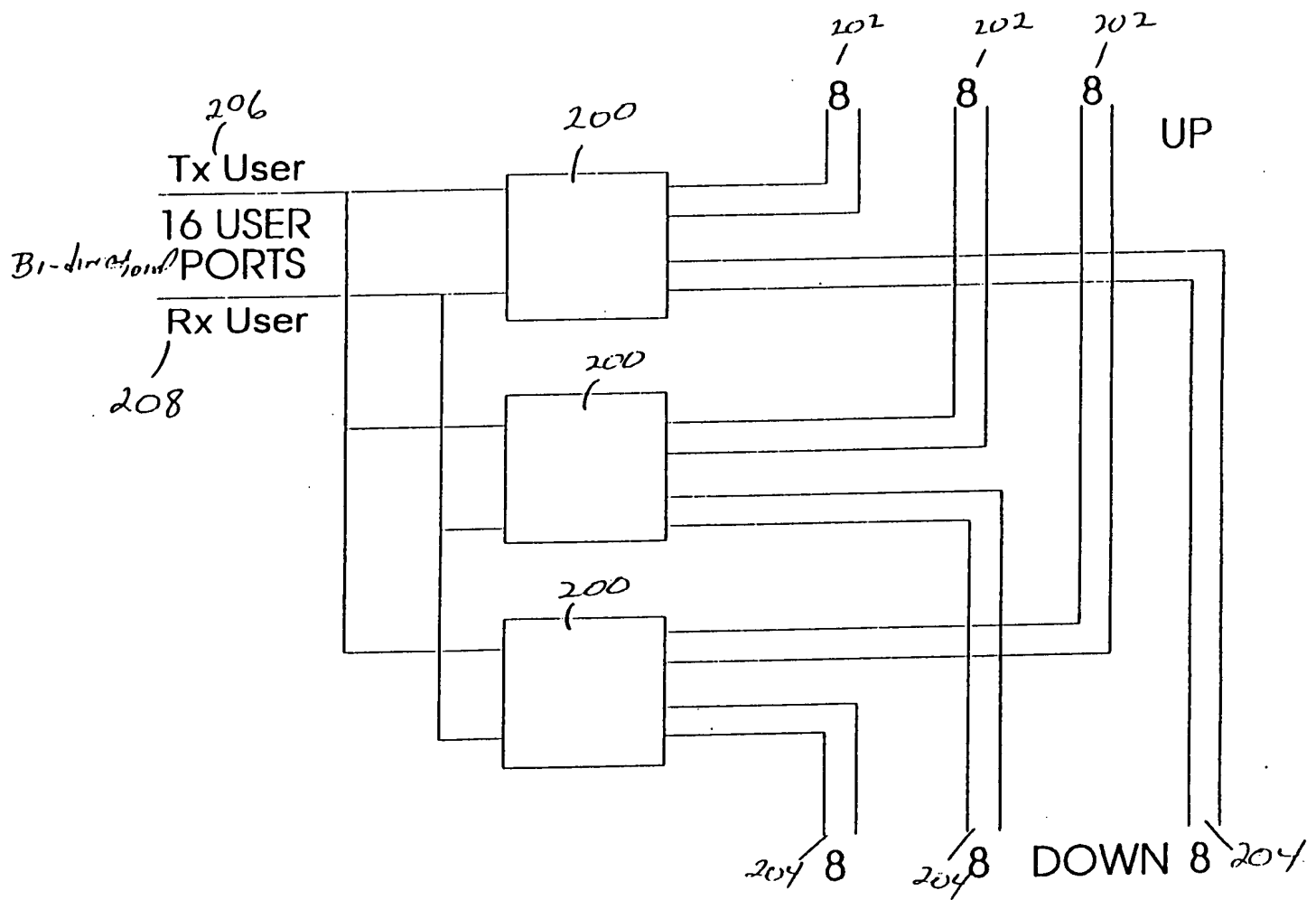
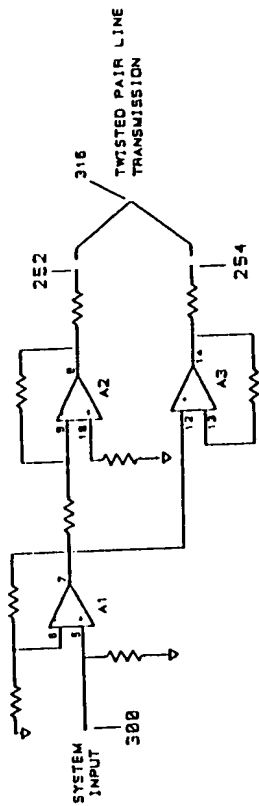


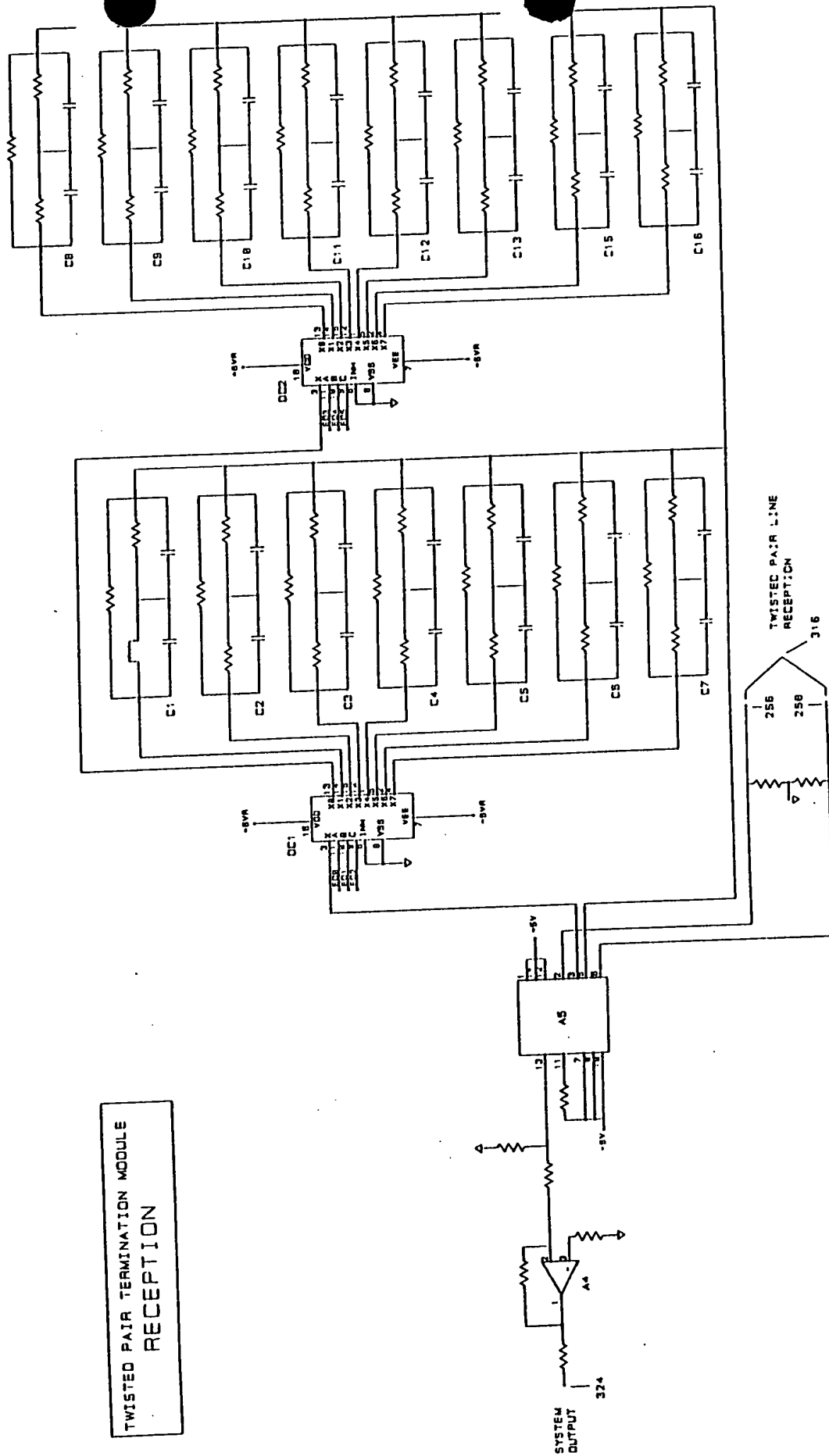
Fig. 8

TWISTED PAIR TERMINATION MODULE
TRANSMISSION



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TWISTED PAIR TERMINATION MODULE
RECEPTION



1941

Twisted Pair Termination Module

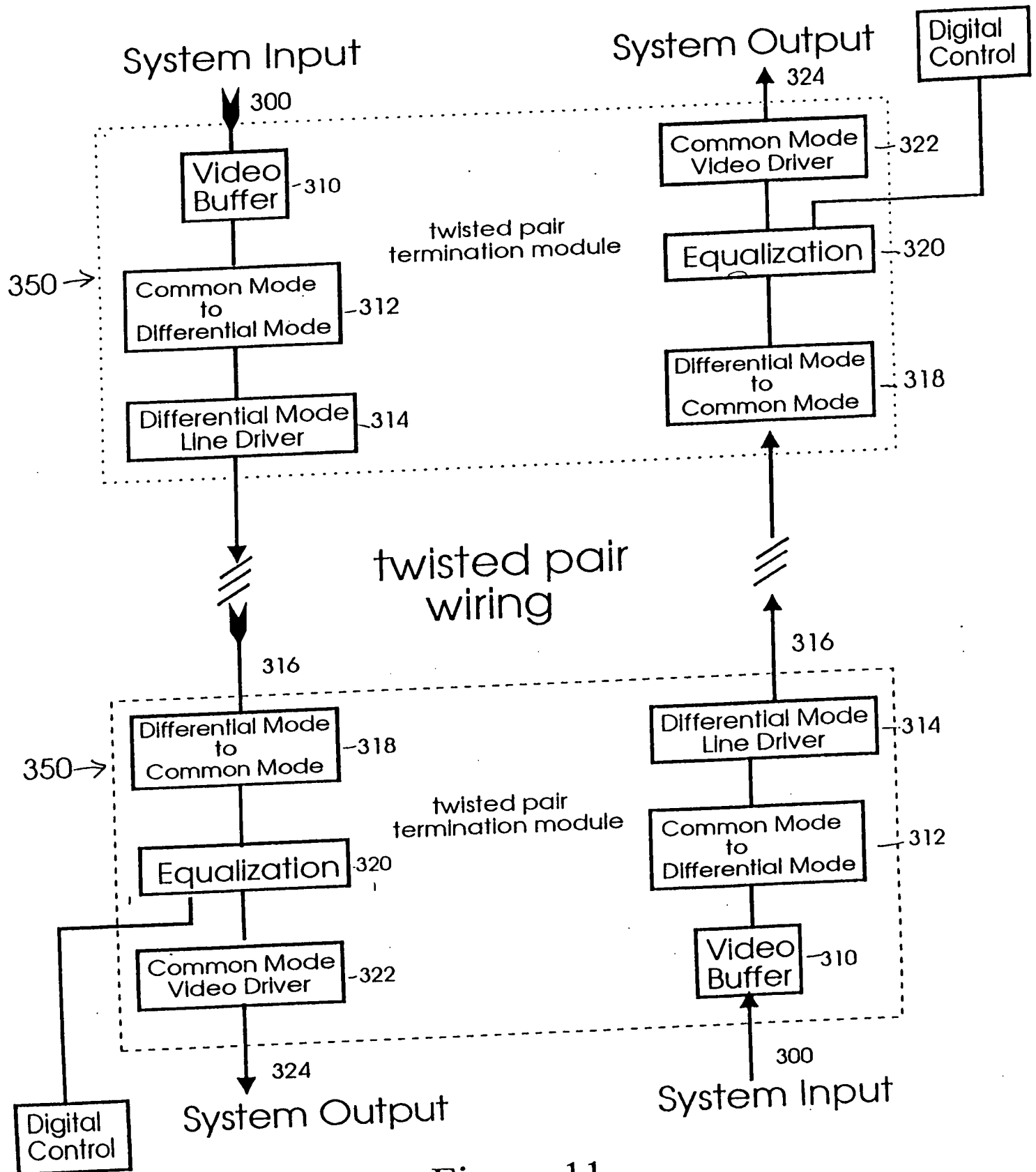
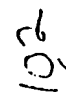


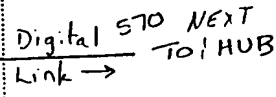
Figure 11

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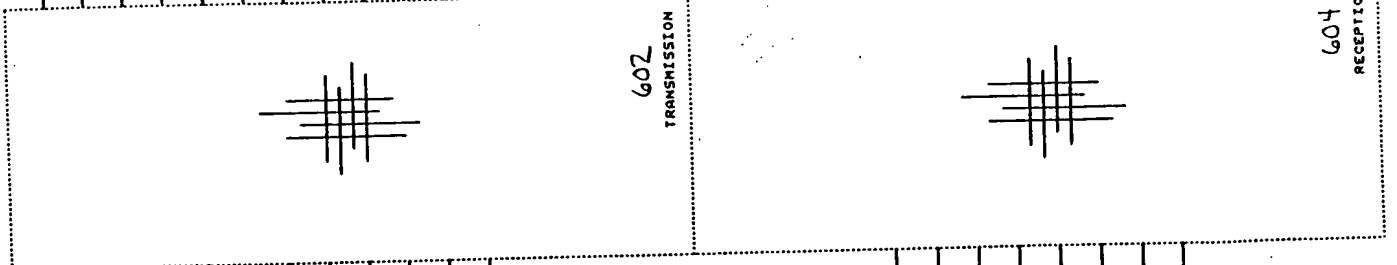
CPU - CENTRAL PROCESSING UNIT
FC - FREQUENCY COUPLER
FS - FREQUENCY SEPARATOR
FMM - FREQUENCY MODULATION MODULATOR
FMD - FREQUENCY MODULATION DEMODULATOR
FSK M - FREQUENCY SHIFT KEY MODULATOR
FSK D - FREQUENCY SHIFT KEY DEMODULATOR

Fig. 13

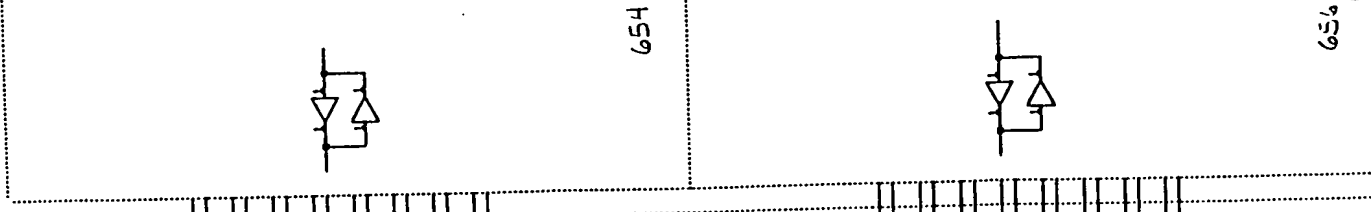
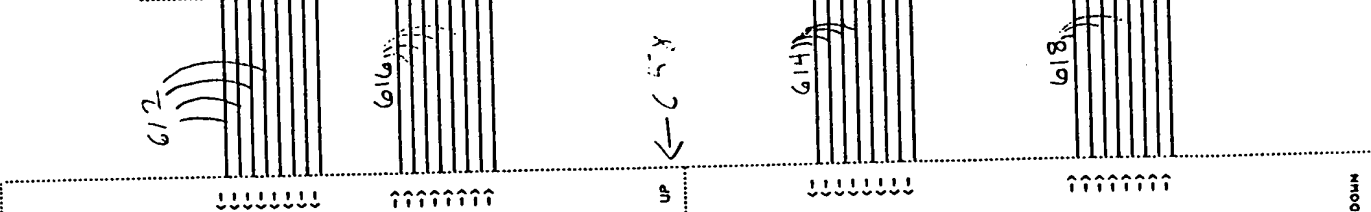
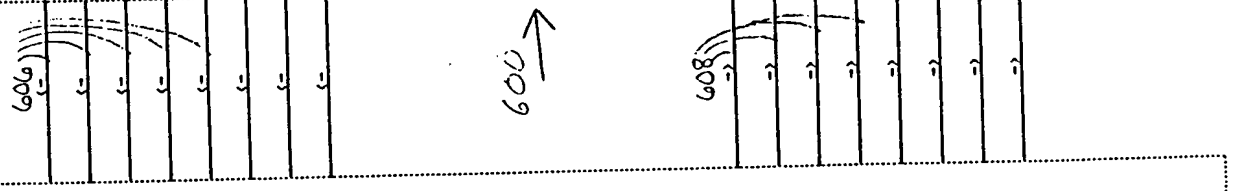
FIGURE 14 ~~15~~

510
USER 1 TRANSMISSION
USER 2 TRANSMISSION
USER 3 TRANSMISSION
USER 4 TRANSMISSION
USER 5 TRANSMISSION
USER 6 TRANSMISSION
USER 7 TRANSMISSION
USER 8 TRANSMISSION
USER 9 TRANSMISSION
USER 10 TRANSMISSION
USER 11 TRANSMISSION
USER 12 TRANSMISSION
USER 13 TRANSMISSION
USER 14 TRANSMISSION
USER 15 TRANSMISSION
USER 16 TRANSMISSION

520
USER 1 RECEPTION
USER 2 RECEPTION
USER 3 RECEPTION
USER 4 RECEPTION
USER 5 RECEPTION
USER 6 RECEPTION
USER 7 RECEPTION
USER 8 RECEPTION
USER 9 RECEPTION
USER 10 RECEPTION
USER 11 RECEPTION
USER 12 RECEPTION
USER 13 RECEPTION
USER 14 RECEPTION
USER 15 RECEPTION
USER 16 RECEPTION



CHANNEL SWITCHING SYSTEM
610



UP CHANNEL 1
UP CHANNEL 2
UP CHANNEL 3
UP CHANNEL 4
UP CHANNEL 5
UP CHANNEL 6
UP CHANNEL 7
UP CHANNEL 8

DOWN CHANNEL 1
DOWN CHANNEL 2
DOWN CHANNEL 3
DOWN CHANNEL 4
DOWN CHANNEL 5
DOWN CHANNEL 6
DOWN CHANNEL 7
DOWN CHANNEL 8

FIGURE 15

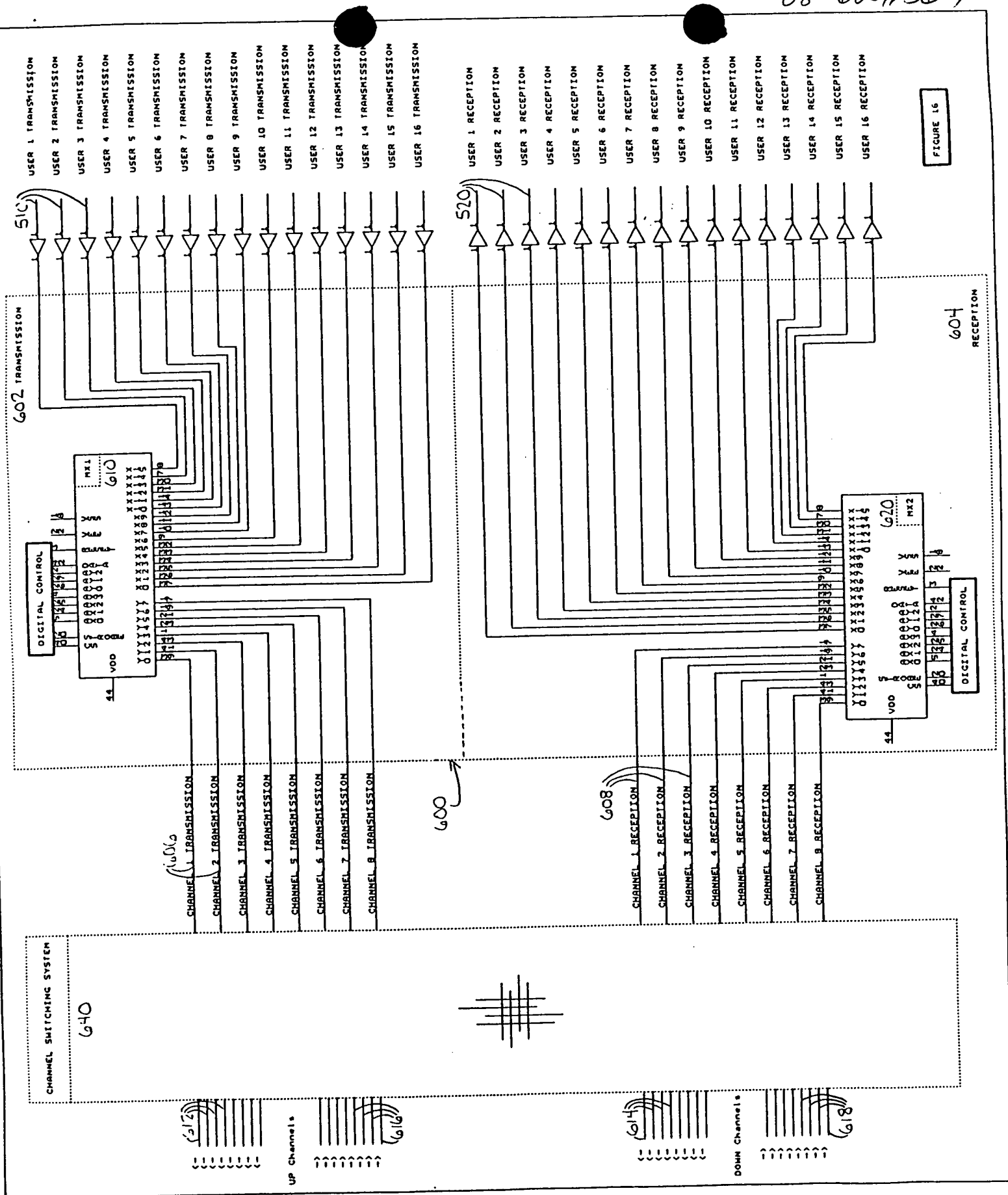


FIGURE 16

009



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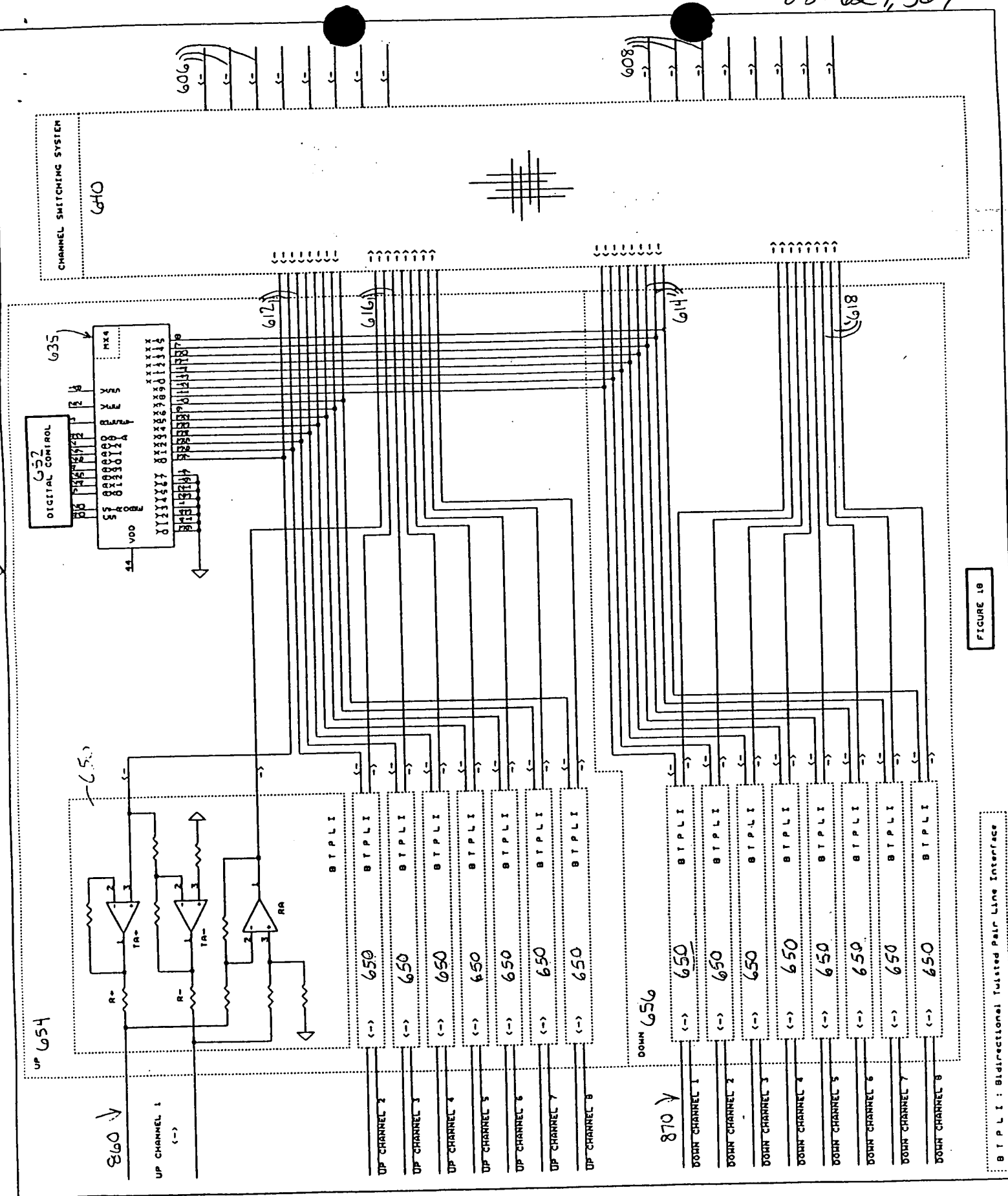


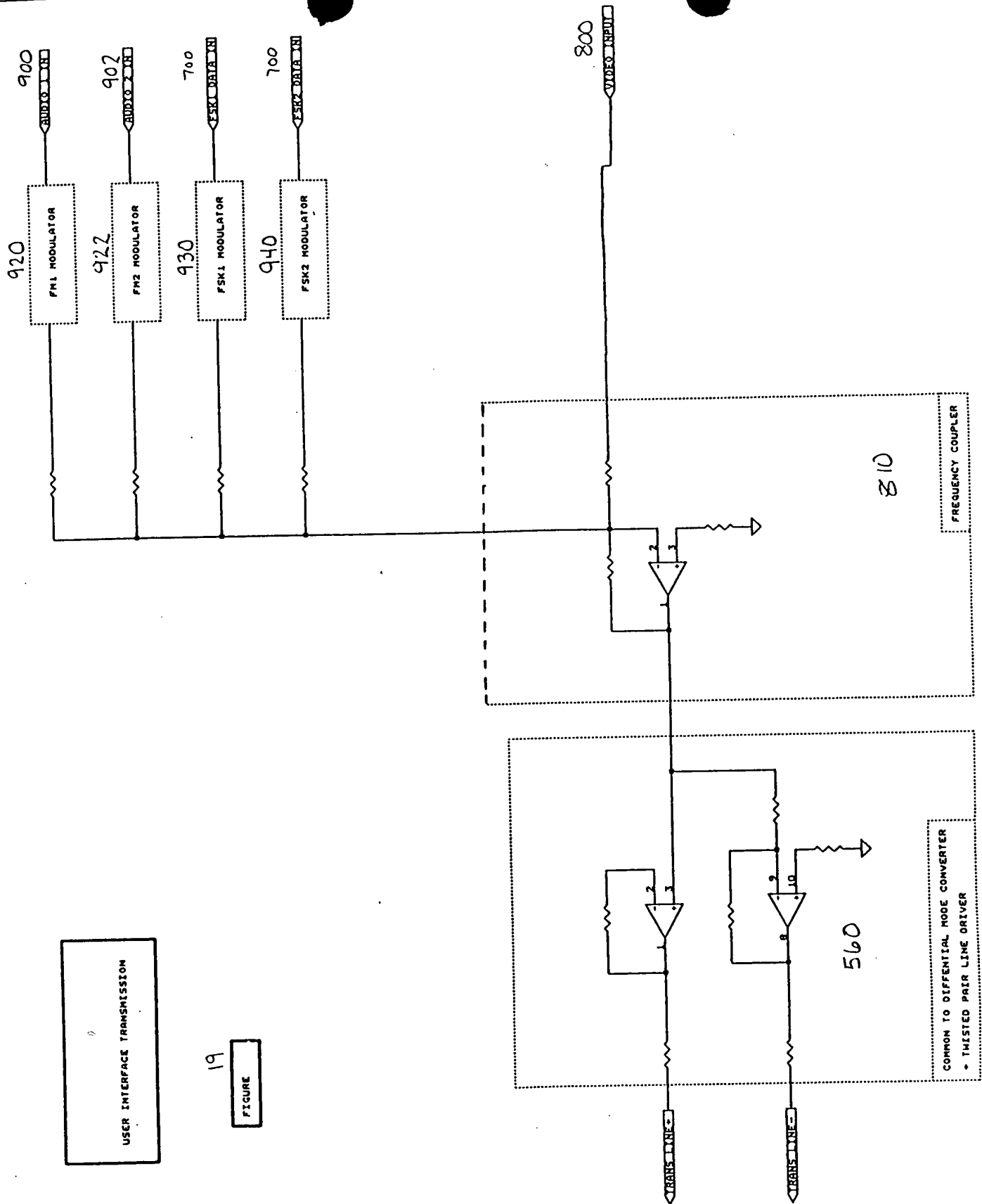
FIGURE 10

[illegible]

USER INTERFACE TRANSMISSION

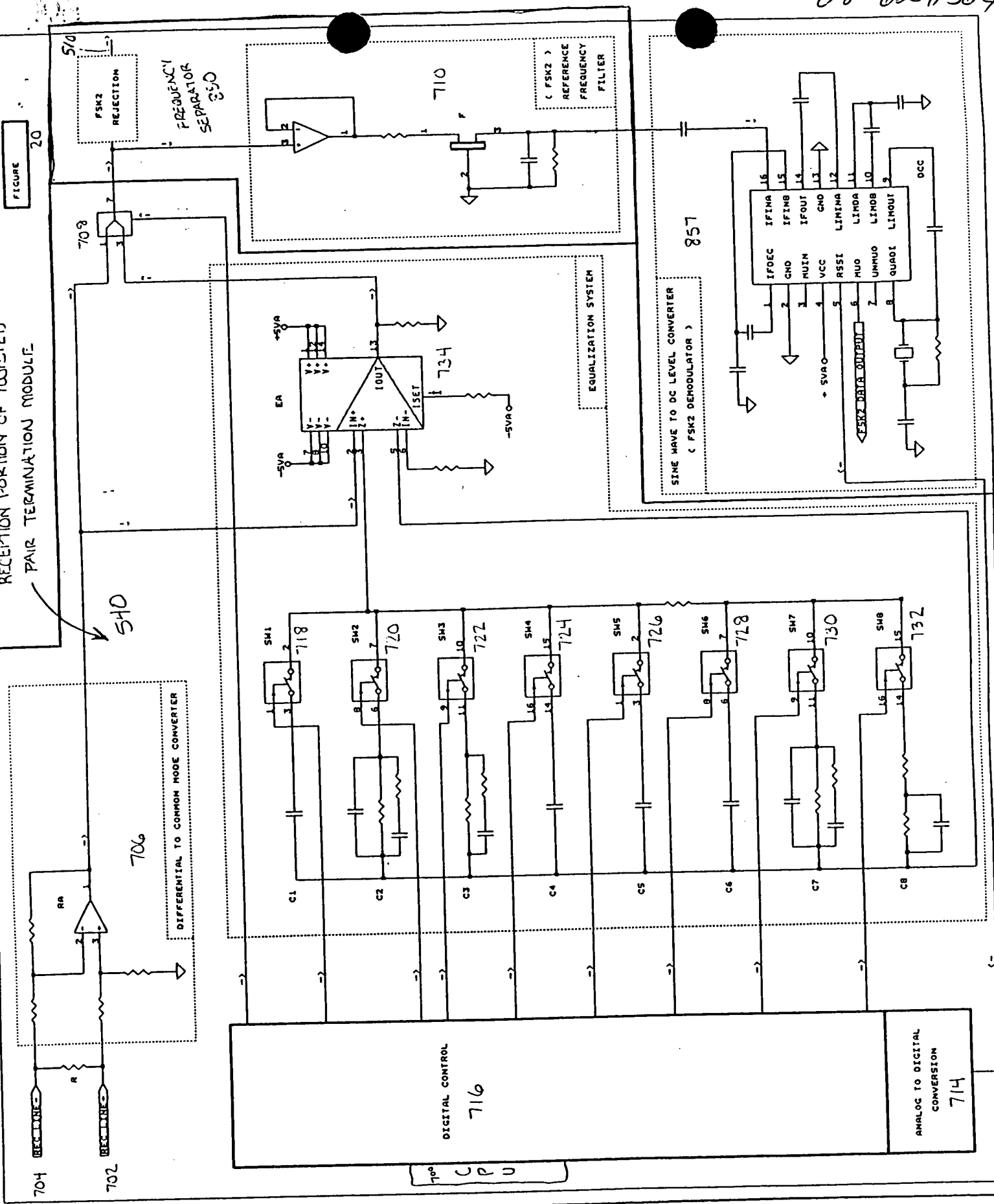
19

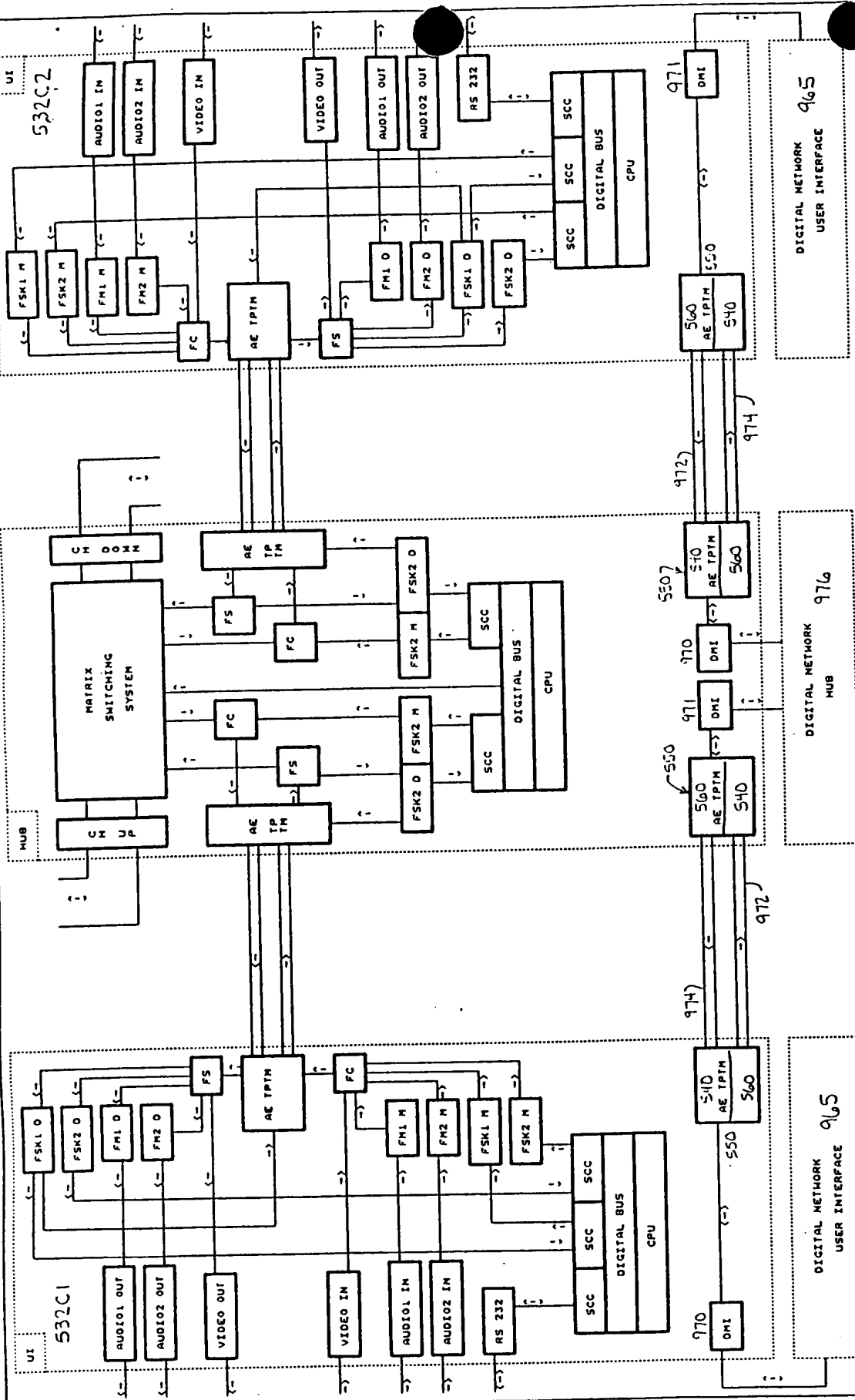
FIGURE



RECEPTION PORTION OF TWISTED
- PAIR TERMINATION MODULE

FIGURE 20





FM M : Frequency Modulators
 FM D : Frequency Demodulators
 FSK M : Frequency Shift Keying Modulator
 FSK D : Frequency Shift Keying Demodulator
 FC : Frequency coupler
 FS : Frequency Separator
 Digital BUS : CPU Interface with Digital Devices
 SCC : Serial Communication Controller
 DMI : Digital Matching Interface
 AE TPIM : Auto-Equalized Isolated Pair Termination Module
 RS 232 : Low Speed Serial Communication Port
 CH UP : Up Channel Backbone Port
 CH DOWN : Down Channel Backbone Port

FIGURE 21

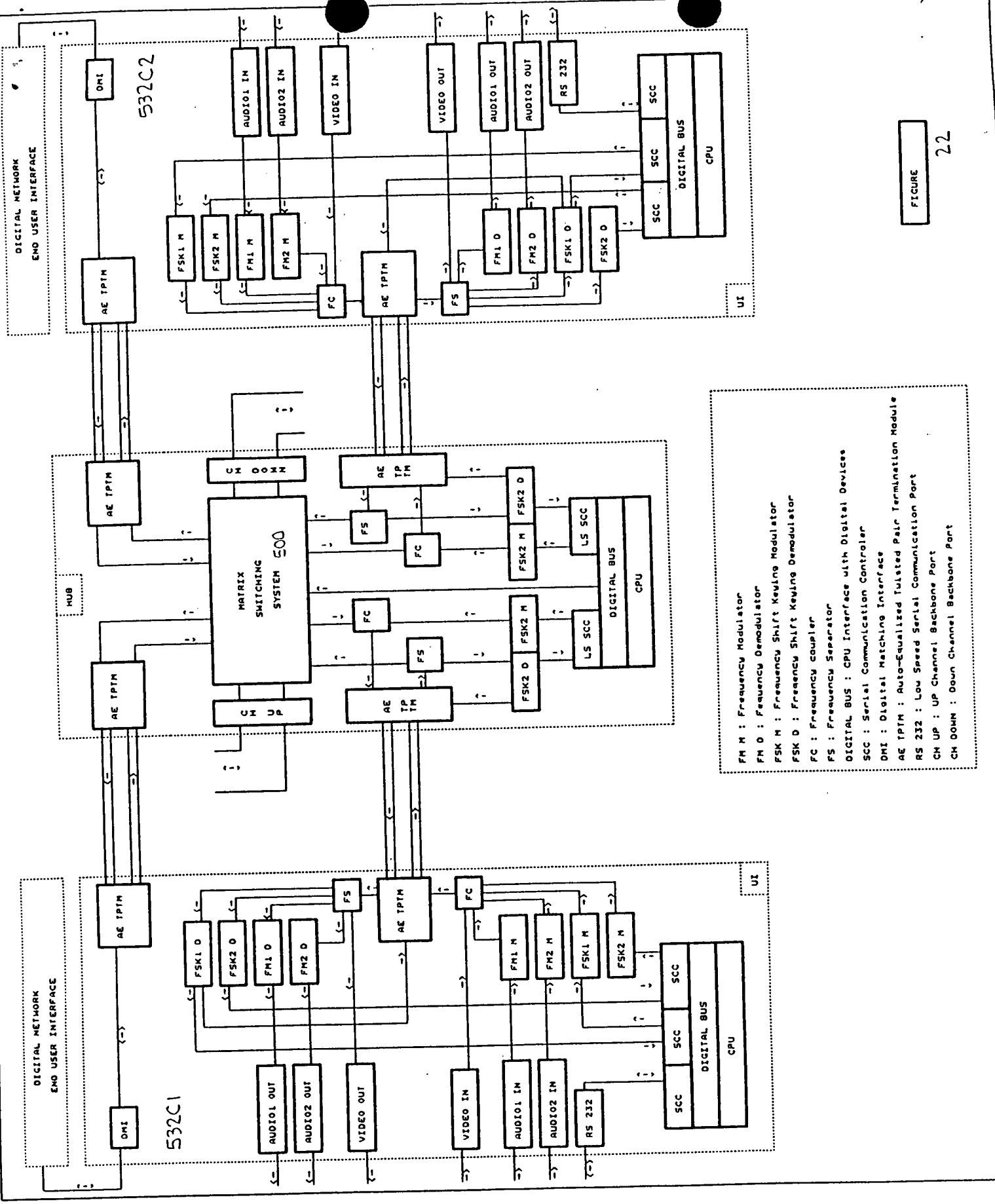
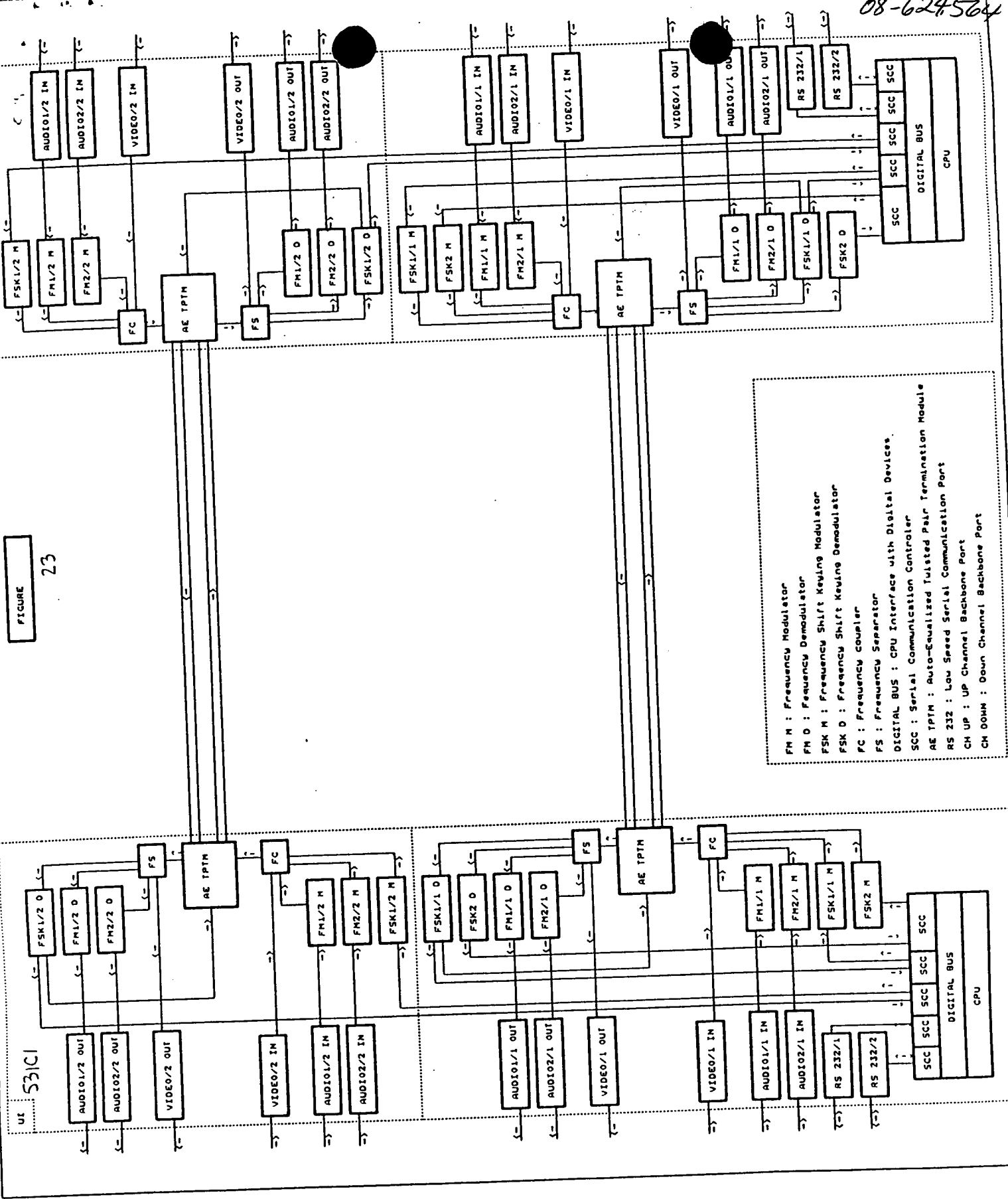


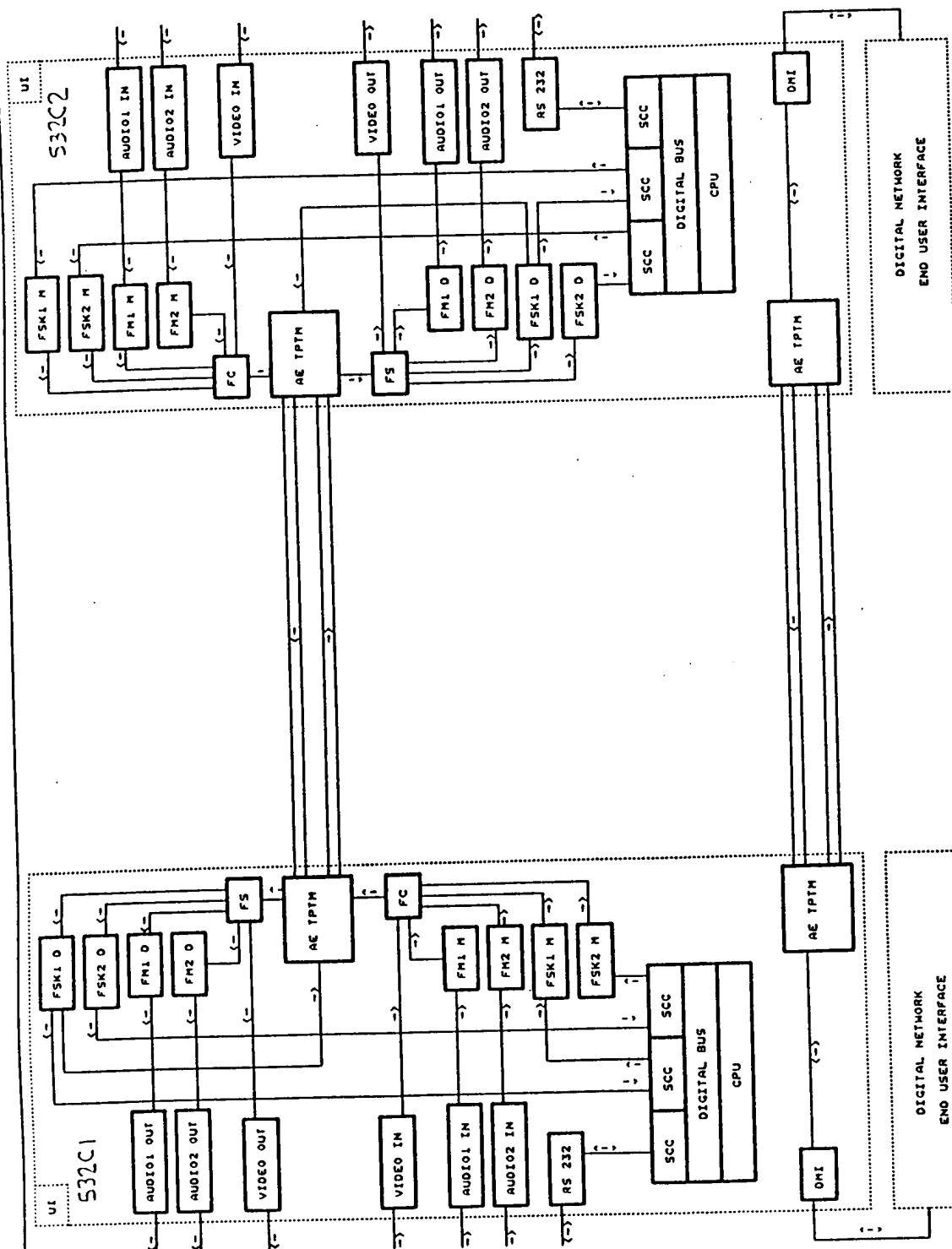
FIGURE 22

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FIGURE 23



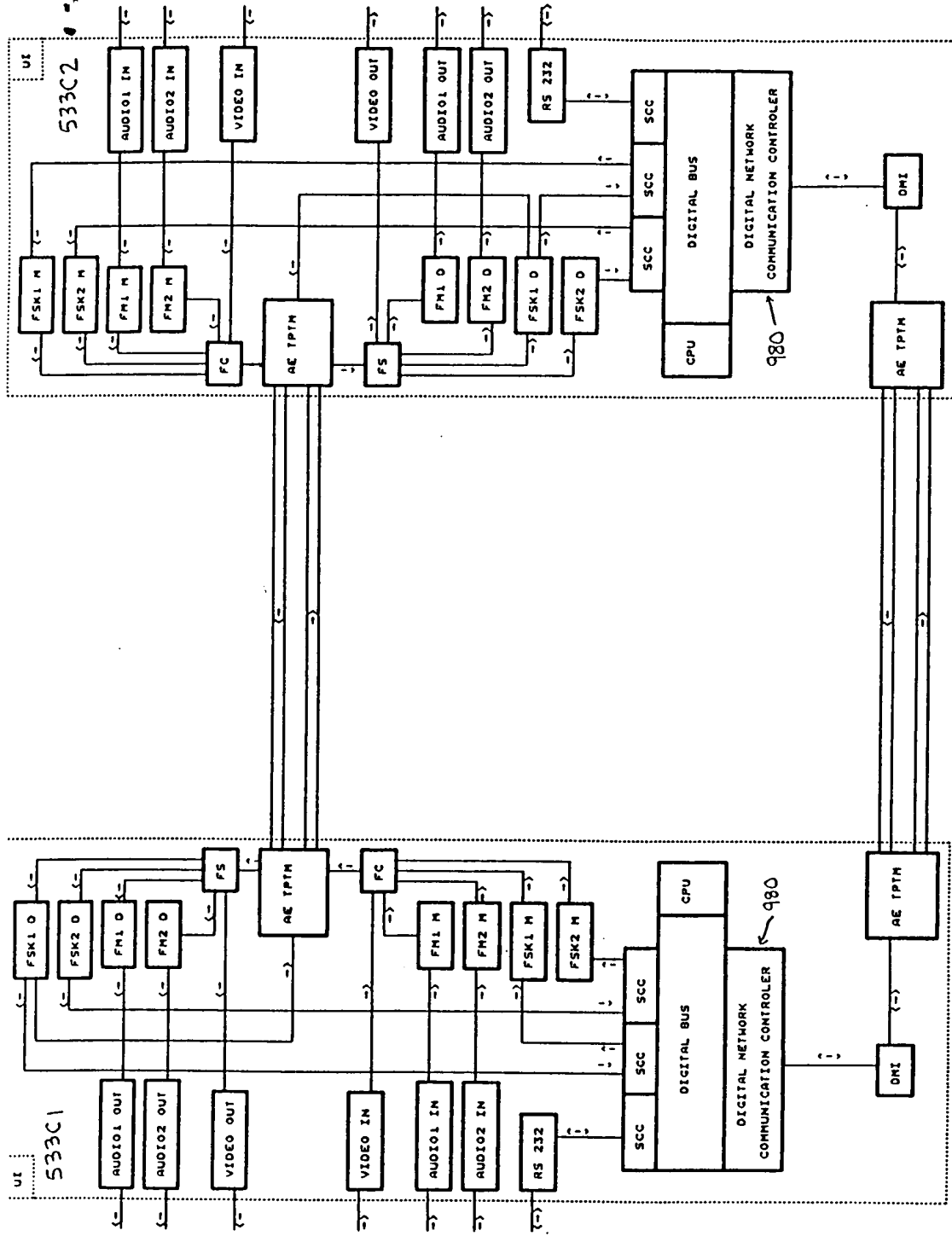
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FIGURE 24

FIGURE



FM M : Frequency Modulators
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